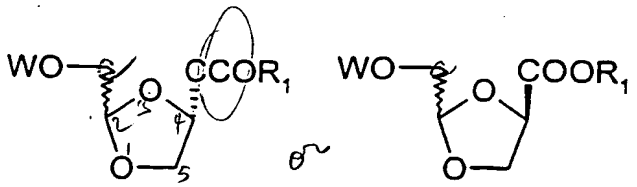
What is claimed is:

1. A process for stereoselectively producing a dioxolane nucleoside analogue from an anomeric mixture of β and α anomers represented by the following formula A or formula B:



(A) (B)

wherein W is benzyl or benzoyl and R_1 is selected from the group consisting of C_{1-6} alkyl and C_{6-15} aryl, the process comprising:

stereoselectively hydrolysing said mixture with an enzyme selected from the group consisting of cholesterol esterase, ESL-001-02, horse liver esterase, bovine pancreatic protease, α-chymotrypsin, protease from *Streptomyces caespitosis*, substilisin from *Bacillus licheniformis*, protease from *Aspergillus oryzae*, proteinase from *Bacillius licheniformis*, protease from *Streptomyces griseus*, acylase from *Aspergillus melleus*, proteinase from *Bacillus subtilis*, ESL-001-05, pronase protease from *Streptomyces griseus*, lipase from *Rhizopus arrhizus*, lipoprotein lipase from *Pseudomonas* species type B, lipase from *Pseudomonas cepacia* and bacterial proteinase to stereoselectively hydrolyse predominantly one anomer to form a product wherein R_1 is replaced with H;

separating the product from unhydrolysed starting material;

stereoselectively replacing the functional group at the C4 position ($COOR_1$) with a purinyl or pyrimidinyl or analogue or derivative thereof.

2. The process of claim 1, wherein the step of hydrolysing results in the starting material having an anomeric purity of at least 80%.

3. The process of claim 1, wherein the step of hydrolysing results in the starting material having an anomeric purity of at least 90%.

4. The process of claim 1, wherein the step of hydrolysing results in the starting material having an anomeric purity of at least 95%.

5. The process of claim 1, wherein the step of hydrolysing results in the starting material having an anomeric purity of at least 98%.

6. The process of claim 1, wherein the step of hydrolysing results in the product having an anomeric purity of at least 80%.

7. The process of claim 1, wherein the step of hydrolysing results in the product having an anomeric purity of at least 90%.

8. The process of claim 1, wherein the step of hydrolysing results in the product having an anomeric purity of at least 95%.

9. The process of claim 1, wherein the step of hydrolysing results in the product having an anomeric purity of at least 98%.

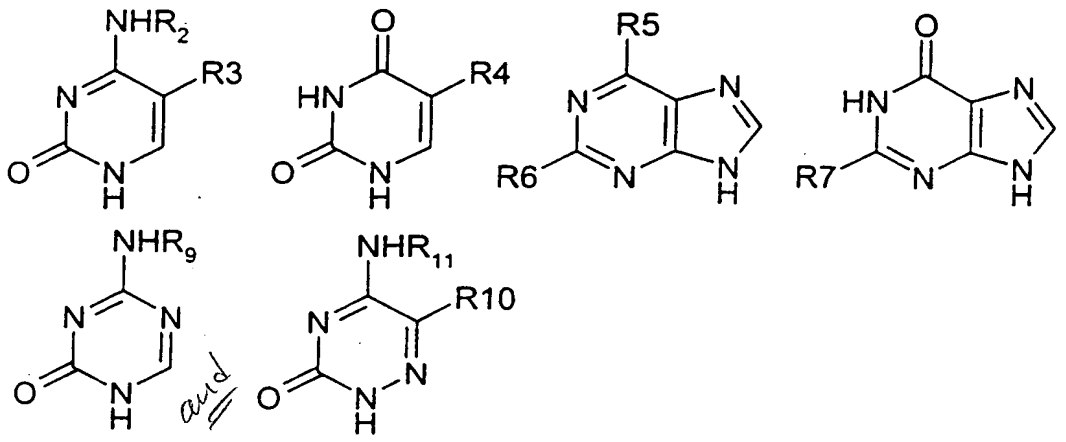
10. The process of claim 1, wherein W is benzyl and wherein the enzyme is selected from the group consisting of cholesterol esterase, ESL-001-02, horse liver esterase, bovine pancreatic protease, α-chymotrypsin, protease from *Streptomyces caespitosis*, substilisin from *Bacillus licheniformis*.

11. The process of claim 10, wherein the enzyme is α-chymotrypsin.

12. The process of claim 10, wherein the enzyme is bovine pancreatic protease.

13. The process of claim 1, wherein W is benzoyl and wherein the enzyme is selected from the group consisting of protease from *Aspergillus oryzae*, proteinase from *Bacillus licheniformis*, subtilisin from *Bacillus licheniformis*, protease from *Streptomyces griseus*, acylase from *Aspergillus melleus*, proteinase from *Bacillus subtilis*, ESL-001-05, pronase protease from *Streptomyces griseus*, lipase from *Rhizopus arrhizus*, lipoprotein lipase from *Pseudomonas* species type B, bacterial proteinase, lipase from *Pseudomonas cepacia*.

14. The process of claim 1, wherein the purinyl or pyrimidinyl or analogue or derivative thereof is selected from the group consisting of:



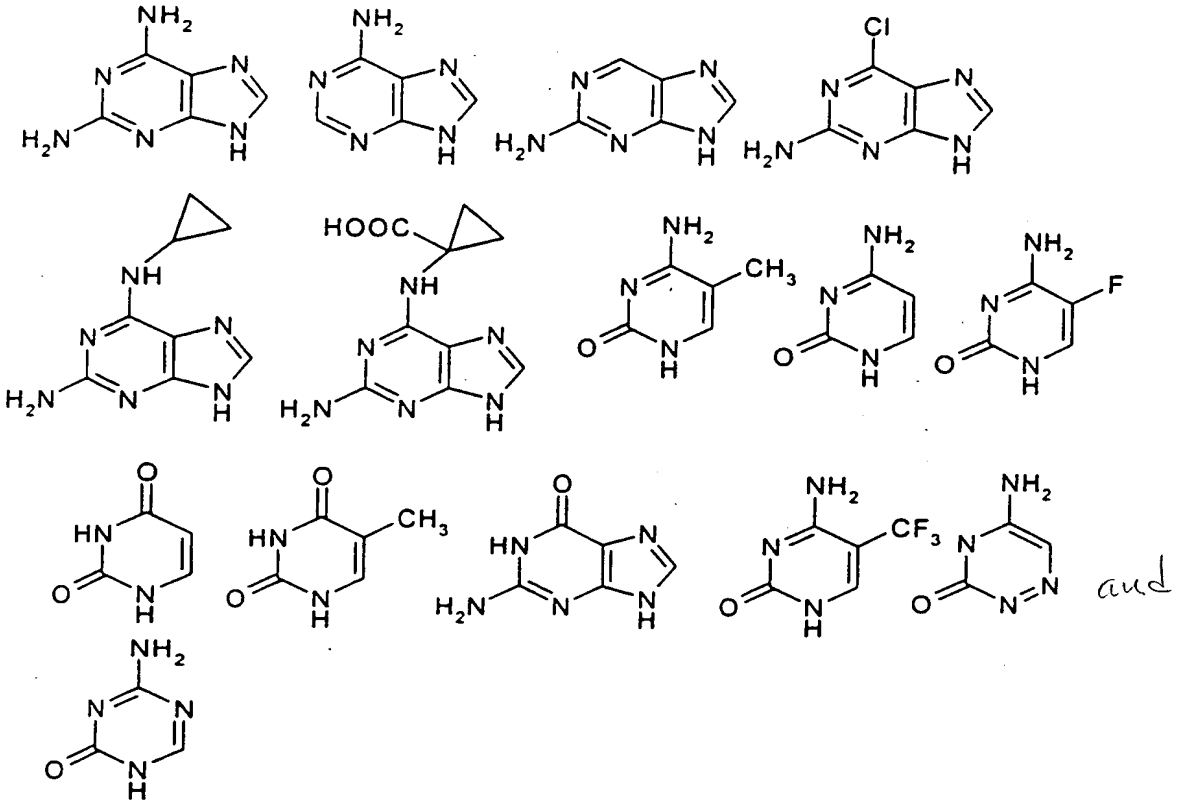
wherein

R_2, R_9 and R_{11} are selected from the group consisting of hydrogen, C_{1-6} alkyl, C_{1-6} acyl and $R_8C(O)$ wherein R_8 is hydrogen or C_{1-6} alkyl;

R_3, R_4 and R_{10} are each independently selected from the group consisting of hydrogen, C_{1-6} alkyl, bromine, chlorine, fluorine, iodine and CF_3; and

R_5, R_6 and R_7 are each independently selected from the group consisting of hydrogen, bromine, chlorine, fluorine, iodine, amino, hydroxyl and C_{3-6} cycloalkylamino.

15. The process of claim 1, wherein the purine or pyrimidine base or analogue or derivative thereof is selected from the group consisting of:



16. The process of claim 1, wherein the step of replacing further comprises:

acylating the second mixture to produce an acylated second mixture; and

glycosylating the acetylated second mixture with a purine or pyrimidine base or analogue or derivative thereof and a Lewis Acid to produce the dioxolane nucleoside analogue.